INSTALLATION, OPERATION & MAINTENANCE MANUAL

sunglo®

The Original Outdoor Patio Heater

MODEL PSA 265, V, & E
MODEL A242
MODEL A244, V, & E

For indoor/outdoor commercial use
For residential outdoor use ONLY

Manufactured by

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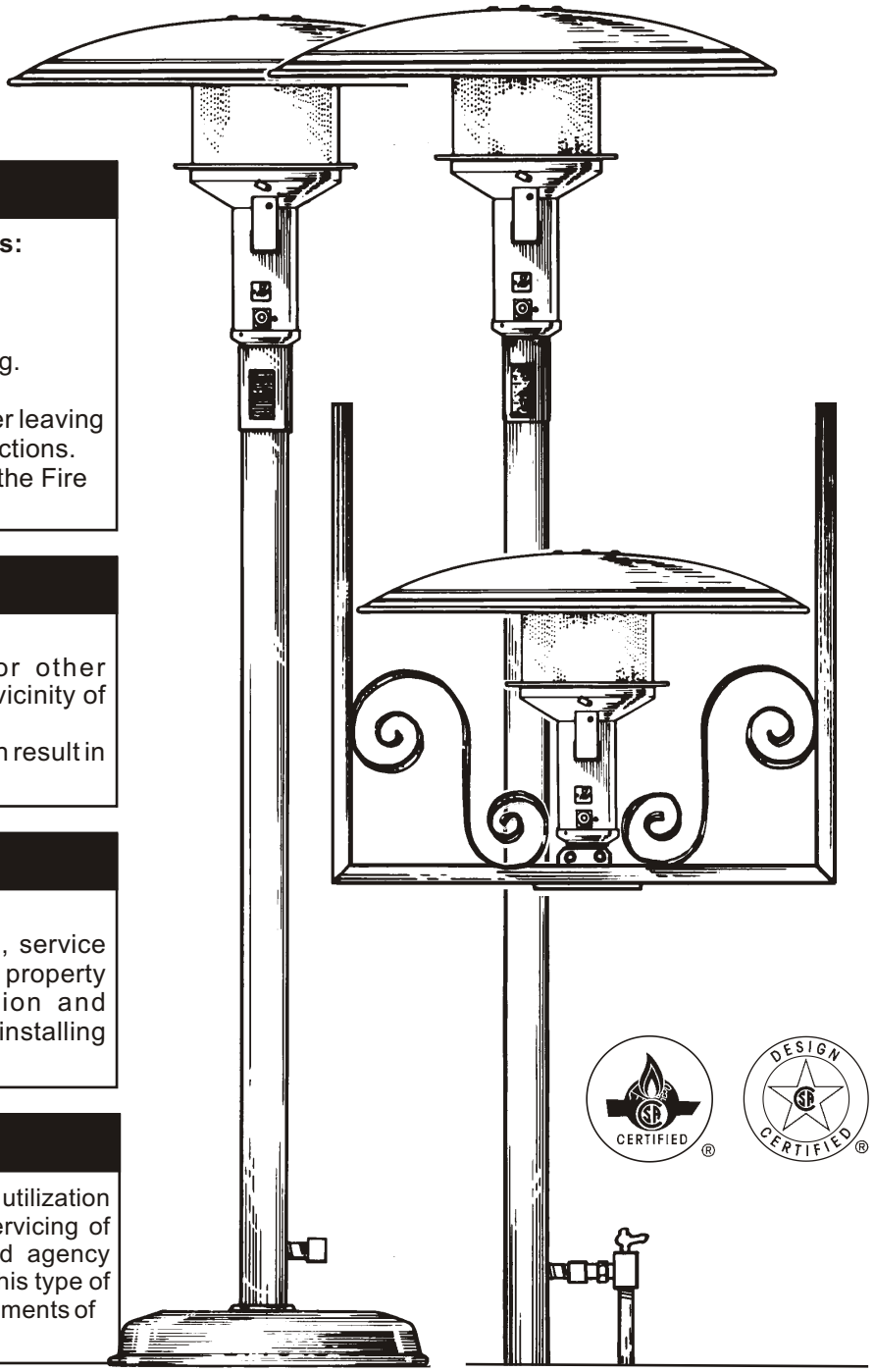

⚠ DANGER

FOR YOUR SAFETY-If you smell gas:

1. Open windows.
2. DO NOT try to light any appliance.
3. DO NOT use electrical switches.
4. DO NOT use any telephone in your building.
5. Leave the building immediately.
6. Immediately call your local gas supplier after leaving the building. Follow the gas supplier's instructions.
7. If you cannot reach your gas supplier, call the Fire Department.

⚠ WARNING

FIRE HAZARD

Do not store or use gasoline or other flammable vapors and liquids in the vicinity of this or any other appliance.
Failure to follow these instructions can result in death, injury or property damage.

⚠ WARNING

FIRE AND EXPLOSION

Improper installation, adjustment, alteration, service or maintenance can result in death, injury or property damage. Read the installation, operation and maintenance instructions thoroughly before installing or servicing this equipment.

⚠ WARNING

Installation and replacement of gas piping, gas utilization equipment, or accessories, and repair and servicing of equipment shall be performed by a qualified agency familiar will all precautions required regarding this type of equipment and that has complied with all requirements of the authority having jurisdiction.

TO THE INSTALLER: Please read and understand all instructions prior to installation. Give a copy of this manual to the owner after installation.
TO THE OWNER: Keep this manual in a safe place in order to provide your serviceman with the necessary information.

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FOR YOUR SAFETY

Application

This is not an explosion proof heater. Consult your local Fire Marshall, insurance carrier and other authorities for approval of the proposed installation.

Sunglo™ heaters are designed and certified for commercial indoor/outdoor and residential outdoor applications and are NOT approved for use in any indoor residential application. This includes, but not limited to, attached garages, living quarters, solarium, etc. Consult the local Fire Marshall and/or insurance provider if unsure of your application.

Warning Symbols

Safety is the most important consideration with installing, operating, and maintaining this gas appliance. You will see the following symbols and signal words when there is a hazard related to safety or property damage.

⚠ DANGER — **DANGER** indicates there is an immediate threat which if not avoided could result in death or injury.

⚠ WARNING — **WARNING** indicates a potential hazardous situation which, if not avoided, could resulted in death or injury

⚠ CAUTION — **CAUTION** indicates a potential hazardous situation which, if not avoided, could result in minor or moderate injury

⚠ WARNING

Not For Indoor Residential Use. Installation of an infrared heater system in residential indoor spaces may result in death, serious injury or property damage. In residential applications this heater may only be used outdoors.

⚠ WARNING

Improperly connected gas lines may result in death or serious injury, explosion, poisonous fumes, toxic gases, asphyxiation. Connect gas lines in accordance to national, state, provincial and local codes

Placement of explosive objects, flammable objects, liquid and vapors close to the heater may result in explosion, fire, property damage, serious injury or death. DO NOT store, or use, explosive objectives, liquids and vapor in the vicinity of the heater.

Failure to comply with published clearance to combustibles could result in death, injury and/or property damage.

In locations used for the storage of combustible materials, signs must be posted to specify the maximum permissible stacking height to maintain the required clearances from the heater to the combustible, Signs must either be posted adjacent to the heater switch or other off/on control or other conspicuous location.

Hazards Include:

For maximum safety the building must be evaluated for hazards before installing the heater system including the following:

- Gas and electrical lines
- Combustible and explosive materials
- Chemical storage areas
- Areas of high chemical fume concentrations
- Provisions for accessibility to heater
- Adequate clearance around air openings
- Combustion and ventilating air supply
- Vehicle parking area
- Vehicles with lifts or cranes
- Storage areas with stacked materials
- Lights
- Sprinkler heads
- Overhead doors and tracks
- Dirty, contaminated environment

A critical safety factor to consider before installation is the clearance to combustible materials. Clearance to combustible is defined as the minimum distance you must have between the heater casing and the combustible items. Consideration must also be made for moving objects around the infrared heater. The following is a partial list of items to maintain clearances from:

Combustible Items:

- Wood
- Paper
- Fabric
- Chemicals
- Wall or Roof Insulation
- Drywall

Moving Objects

- Umbrellas
- Awnings
- Movable Partitions
- Stage Components
- Sprinkler heads
- All Heat Sensitive Objects

When installing infrared heating systems, the minimum clearance from combustible materials must be maintained. These distances are shown in page 8 and on the minimum clearance to combustibles label found on the heater. If you are unsure of the potential hazards, consult your local Fire Marshall, fire insurance carrier or other qualified authorities on the installation of gas-fired infrared heater for approval of the proposed installation.

PROP. 65 CARBON MONOXIDE WARNING!!! If not installed, operated and maintained in accordance with manufacturer's instructions, this product could expose you to substances in the fuel or from combustion, including Carbon Monoxide, which can cause death or serious illness, and which are known to the State of California to cause cancer, birth defects or reproductive harm.

OWNER'S MANUAL

Before Starting Your Heater

Before you start your heater examine the heater installation to determine that:

- Areas immediately around the heater including the air inlet and flue areas are free from obstructions.
- Physical support of the heater is sound.
- There is no obvious deterioration of the heater.
- Portable type heaters must be placed on level and adequate footing.

Starting and Shutting Down Your Heater

Sunglo heaters can utilize a variety of gas control systems. With some models it is necessary to light a pilot while other models have a fully automatic ignition system. Identify the model of your heater on the Basic Lighting Instructions chart on page 6 and follow the lighting instructions. If heater fails to light or does not heat properly discontinue use of the heater and contact your local distributor, or qualified service agency.

Performing Routine Maintenance

Overtime, particularly during long periods of disuse, the heater can accumulate dirt and debris in and around the pilot and the burner. Routine maintenance should be performed at least once a year by a qualified service agency to insure the heater is operating properly. More frequent service may be required for heaters located near waterfronts.

Warning Labels

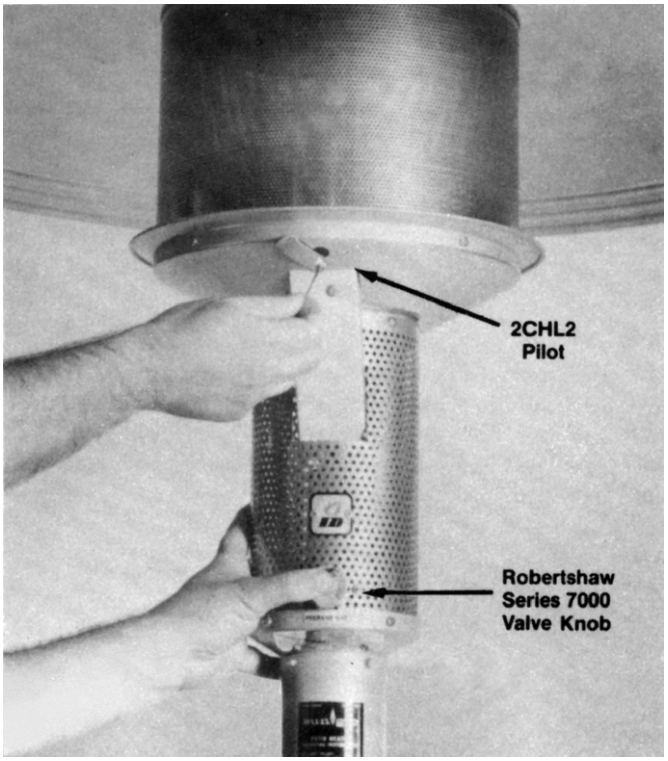
It is important that warning labels including the lighting instruction are not removed from the heater. If labels are damaged, replacement labels are available from your local dealer or the factory.

Stainless Steel Care

Stainless steel does not "rust"; however air pollution can leave brown deposits on heaters. We recommend washing the stainless steel post and base only with a mild detergent solution and wiping it dry with a soft cloth to bring back the original shine. The stainless steel may be expected to permanently darken around the top of the heater.

Before You Remodel

Should you plan to make any changes to the patio or building structure after heaters have been installed, your heater installation must be reviewed by a qualified agency to insure that clearances from combustible material and ventilation requirements are maintained after alterations are complete. When plastic curtains or drops are used to enclose a patio you must take steps to insure that all Sunglo™ heaters have the required permanent access to outside air. If a patio is to be partially enclosed a qualified agency familiar with this type of heating equipment must be consulted to insure the safe operation of this equipment.

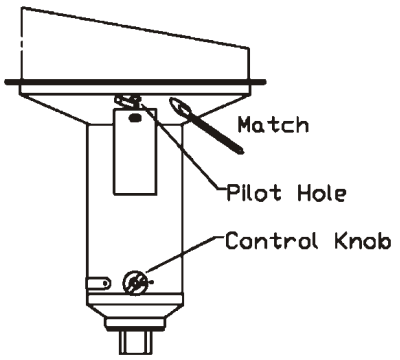
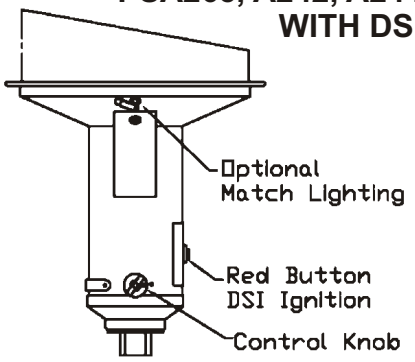
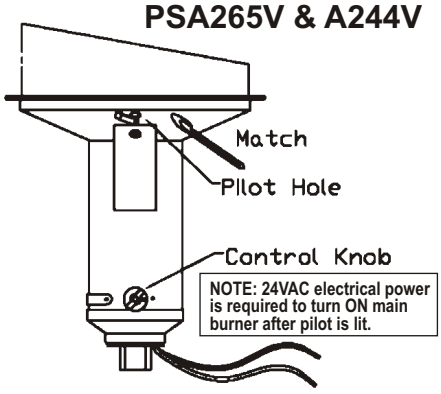
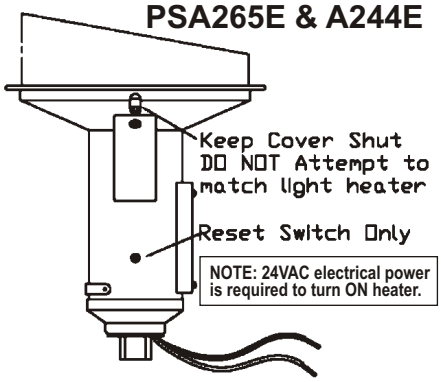


Basic Lighting with Sunglo™ Manual Control
(See lighting instructions pertaining to your heater model on page 6.)

⚠ WARNING

PROP. 65 CARBON MONOXIDE WARNING!
If not installed, operated and maintained in accordance with manufacturer's instructions, this product could expose you to substances in the fuel or from combustion, including Carbon Monoxide, which can cause death or serious illness, and which are known to the State of California to cause cancer, birth defects or reproductive harm.

BASIC LIGHTING INSTRUCTIONS

Model	Lighting Instructions	Control Description
PSA265, A242, A244 	**To Light Pilot:** Rotate control knob to “Pilot' position. Firmly depress knob for 30 seconds while lighting pilot through ½ diameter lighting hole above control. Pilot should remain lit. **To Turn Heater ON:** Rotate control knob to “ON” position. **To Turn Heater and Pilot OFF:** Rotate control knob to Pilot” position, depress slightly and turn to “OFF” position. Wait 5 minutes alter complete shutdown of heater before relighting pilot.	**MANUAL CONTROL** This heater utilizes a standing pilot with thermocouple safety shutoff. This heater can be either lit with a match or a long stem lighter. The manual control allows you to regulate the heat.
PSA265, A242, A244 WITH DSI 	**To Light Pilot:** Rotate control knob to “Pilot' position. Firmly depress knob for 30 seconds while pressing the red button on the side of the heater. Pilot should remain lit. **To Turn Heater ON:** Rotate control knob to “ON” position. **To Turn Heater and Pilot OFF:** Rotate control knob to Pilot” position, depress slightly and turn to “OFF” position. Wait 5 minutes alter complete shutdown of heater before relighting pilot.	**MANUAL CONTROL WITH DSI** This heater utilizes a standing pilot with thermocouple safety shutoff. This heater is equipped with a battery operated spark ignition to light the pilot This heater can be either lit with a match or a long stem lighter. The manual control allows you to regulate the heat.
PSA265V & A244V 	**To Light Pilot:** Rotate control knob to “Pilot' position. Firmly depress knob for 30 seconds while lighting pilot through ½ diameter lighting hole above control. Pilot should remain lit. **To Turn Heater ON:** Rotate control knob to “ON” position and turn on 24 VAC electrical power to heater. **To Turn Heater and Pilot OFF:** Rotate control knob to Pilot” position, depress slightly and turn to “OFF” position. Wait 5 minutes alter complete shutdown of heater before relighting pilot.	**MANUAL CONTROL WITH 24 VAC ACTUATOR** This heater utilizes a standing pilot with thermocouple safety shutoff. This heater can be either lit with a match or a long stem lighter. The 24 VAC Actuator allows you to turn ON/OFF the main burner with a switch.
PSA265E & A244E 	**To Turn Heater ON:** 1.Turn the gas valve “ON”. 2.Turn “ON” Electrical Switch (24 VAC only) **To Turn Heater OFF:** 1.Turn the electrical power “OFF”. 2.Turn the gas valve “OFF”. **Warning:** If burner fails to ignite, shut OFF electrical power and wait (5) minutes before repeating lighting process. **Warning:** DO NOT attempt to light this heater manually.	**ELECTRONIC CONTROL (DO NOT MATCH LIGHT)** This heater utilizes a electronic ignition and flame monitoring thru flame rectification. This heater requires 24 VAC in order to operate.

HEATER LAYOUT AND PATIO DESIGN

There are a number of considerations in determining the type and number of heaters to be used and their location on your outdoor patio.

Concept of Patio Heating: Hot air is not an option for heating an outdoor patio so a patio heater uses radiant heat like we receive from the sun.

Radiant Heat: Is the type of heat you receive from a fireplace, potbelly stove, or the sun. It is an infrared wave length that heats objects without first heating the intervening air. Unlike ultra violet light there is no sunburn or sun tanning affect. Infrared will not attract insects.

Patio Heater: Is an unvented gas-fired infrared heater designed to concentrate radiant heat in outdoor areas.

Definition of Outdoors (For the purposes of these instructions**).** An appliance is considered to be outdoors if installed with shelter no more inclusive than:

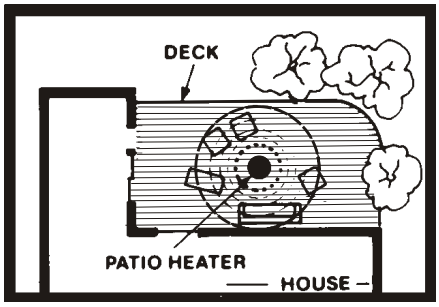
1. With walls on all sides, but with no overhead cover.
2. Within a partial enclosure which includes an overhead cover and no more than two side walls. These side walls may be parallel, as in a breeze way, or at right angles to each other.
3. Within a partial enclosure which includes an overhead cover and three side walls, as long as 30 percent or more of the horizontal periphery of the enclosure is permanently open.

EFFECTIVE RANGE (COVERAGE):

The comforting warmth from a single Sunglo™ Heater will cover a 12' to 20' circle. The Sunglo™ is a "comfort" heater," and the coverage is the area in which people will received a comforting amount of warmth. Some people will require more or less warmth than others to be comfortable and will either turn the heater up or down, or move closer or farther away as they desire.

WHERE TO LOCATE PATIO HEATERS:

Sunglo™ Heaters naturally attract people to their infrared warm glow. Locate heaters where people can readily gather, sit or stand comfortably, and where furnishings can easily be moved to best accommodate the radiating warmth.



GENERAL RULES FOR LOCATING HEATERS:

A Sunglo™ Patio Heater can operate effectively to maintain comfort even in completely exposed areas, although weather protected areas are desirable. Weather and wind protection allows the surrounding air to be warmed to enhance the direct radiant warming effect.

Breezy Conditions:

Sunglo™ heaters are designed to work well under a variety of outdoor conditions, however under certain conditions they work better than others and under some conditions they should not be operated at all. The heater can be operated under breezy conditions when the cross wind is 0-10 mph. If heaters are mounted on the edge of a precipice or sea cliff where wind is directed upwards into the reflector hood, damage to the heater can occur. Upward thrusts of wind can also be caused by wind walls or architectural elements near the heater. The patio must be designed to protect against this type of condition.

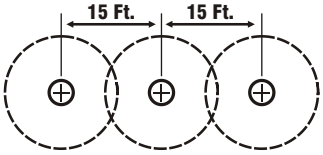
WHEN MULTIPLE HEATERS ARE USED:

When more than one heater is used in an area, it is generally preferable to locate them close together. Multiple heaters located on 8' to 15' centers give overlapping heat patterns increasing the overall effective coverage for each heater.

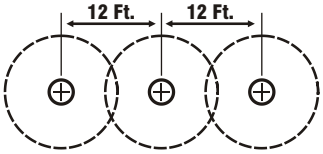
CONTROL SYSTEMS:

Sunglo™ heaters are available with a variety of control systems from manual controls requiring no electrical connections to a 24 VAC fully automatic ignition and control system (see Basic Lighting Instructions on page 6). It is recommended that when multiple heaters are used, that the electrical circuitry be arranged so heaters can be switched individually or in groups to provide maximum flexibility for heating the patio.

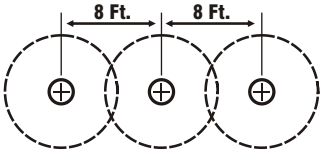
SUGGESTED SPACING WHEN MULTIPLE HEATERS ARE USED:



Spacing For: WELL PROTECTED AREAS AND MILD CLIMATIC CONDITIONS



Spacing For: SEMI EXPOSED AREAS WITH AVERAGE WEATHER CONDITIONS



Spacing For: COMPLETELY EXPOSED AREAS WITH SEVERE WEATHER CONDITIONS

INSTALLATION AND SERVICE INSTRUCTIONS

Receiving Equipment

On receipt of equipment it is suggested that a visual inspection be made for external damage to the carton. If the carton is damaged, a note should be made on the Bill of Lading when signing for the equipment. Remove the heater from the carton. If there is damage, report the damage to the carrier immediately.

Each Sunglo™ heater is carefully tested and adjusted at the factory. Before attempting to install this equipment a thorough inspection is required to insure the heaters are in the original condition from the factory. Check for any loose parts or damage such as dents or parts that may affect the operation of the heater. If there is any question in regards to the condition of the equipment contact the factory.

INSTALLATION INSTRUCTIONS

Important Notice

These instructions are intended for qualified personnel, specifically trained and experienced in the installation of this type of equipment and related system components. Some states or provinces require installation and service personnel to be licensed. If your state or province is such, be sure your contractor bears the appropriate license. Persons not qualified shall not attempt to install this equipment nor attempt repairs.

Code Requirements

Installation must be in accordance with local codes, or in the absence of local codes, with the latest edition of the *National Fuel Gas Code*, NFPA 54/ANSI Z223.1 and *National Electrical Code* ANSI/NFPA 70, and for Canada, the latest edition of CAN/CGA-B149.1 and B149.2 and Canadian Code, CSA C22.1 Part 1 and Part 2.

- Heaters to be installed in Aircraft hangars must be installed in accordance with the *American National Standard for Aircraft Hangars*, ANSI/NFPA No. 409.
- Heaters to be installed in Public Garages must be installed in accordance with NFPA No. 88A, *Standards for Parking Structures.*
- Heaters must be installed so that minimum clearances marked on the heater will be maintained from vehicles parked below the heater.
- Each heater must be electrically grounded in accordance with the National Electrical Code ANSI/NFPA 70, when an external electrical source is utilized. In Canada, the *CSA Canadian Electrical Code*, C22.1 Part 1 applies.

Gas Supply

The gas inlet supply pressure and manifold pressure required for each heater are listed below. For gas supply line pressures in excess of ½ psig, consult your representative or the factory.

Gas Inlet Pressure	Nat Gas	Propane
Maximum Pressure	½ psig	11" W.C.
Minimum Pressure	6" W.C.	11" W.C.
Manifold Pressure	5" W.C.	11" W.C.

It is important that the gas piping system be adequately sized for all the gas appliances it serves.

Clearance Requirements

Each heater must be installed such that the following "Minimum Clearances to Combustible Materials" are maintained.

Combustible materials include wood, compressed paper, plant fibers, plastics, Plexiglas® or other materials capable of being ignited or burned. Such materials shall be considered combustible even though flame-proof, fire retardant treated or plastered. Additional clearance may be required for vinyl siding, glass, painted surfaces and other materials that may be damaged by radiant or convection heat.

The stated clearance to combustible materials represents a surface temperature of 90ºF (32ºC) above room temperature. Building materials with low heat tolerance may be subject to degradation at lower temperatures. It is the installer's responsibility to assure that adjacent materials are not subject to degradation.

In locations used for storage of combustible materials signs shall be posted to specify the maximum permissible stacking height to maintain required clearances from the heater to combustible materials.

Clearance from combustibles		
Top	18 inches	46 cm
Side	24 inches	61 cm
Below	84 inches	214 cm

Fire Sprinklers

Fire Sprinklers must be located at an appropriate distance from each heater to avoid accidental activation of the sprinkler. Ethylene glycol or propylene glycol must never be used in fire sprinkle systems where heaters are present as these substances may become flammable when heated. A fire sprinkler professional must be consulted when heaters are installed to insure heaters and fire sprinklers are properly integrated. Specific guidelines for fire sprinkler can be found in NFPA 13, *Installation of Fire Sprinkler Systems*.

Electrical ('V" and 'E' model only)

These heaters require 24 VAC to operate. The installer must provide a NEC Class 2 transformer. Each heater requires 20VA or 0.8 amperes. When multiple heaters are connected to one transformer, the transformer must be sized to accommodate the entire load.

Control wires used to electrically connect one or more heaters together must have adequate capacity and insulation temperature rating for the total connected load. Use at least 18 GA wire up to 50 feet from heater to transformer or wall switch. Use a minimum of 16 GA wire for over 50 feet distance

If any of the original wire supplied with the appliance must be replaced, it must be replaced with wiring material having a temperature rating of at least 105º centigrade.

Ventilation

1. It is required that areas above and below the heater be properly vented to allow for necessary combustion air and removal of combustion gases.
2. Heater shall be provided with natural or mechanical means to supply and exhaust at least 4 cfm per 1,000 BTU per hour of heater input. Exhaust opening for removing the flue products shall be above the level of the heaters.
3. Heater ventilation must comply with state and local codes.

Gas Piping

1. A minimum pipe size of ½" is required for inlet piping. A ½" leaver handled shut-off gas cock must be installed within 6 feet of the appliance for servicing the unit.
2. Gas lines must be adequately sized to carry the total connected gas load. Check with local and state plumbing and heating codes regarding sizing of gas lines
3. All gas pipe connections to the heater(s) must be sealed with a gas pipe compound resistant to liquefied petroleum gases.
4. Installation of a drip leg in the gas supply line going to each heater is required to minimize the possibility of any loose scale or dirt within the gas supply line from entering the heater's control system.
5. When checking for gas leaks, do not use an open flame. Use a soap and water solution.
6. For gas supply line pressures in excess of ½ psig, consult the factory or your local representative.
7. Installation of a 1/8" N.P.T. plugged tapping accessible for test gage connections is required upstream of the gas supply connections to the heater.

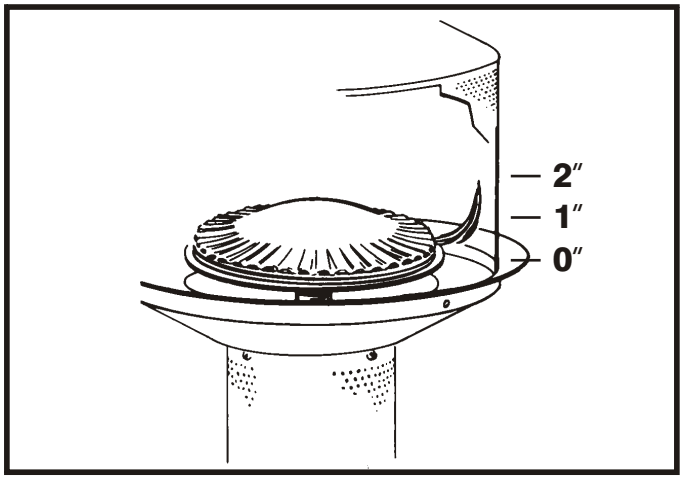


Figure 1. Normal Flame Position

Initial Start-Up Procedure

1. Make sure that gas lines are completly purged of air before attempting to light heater.
2. Follow lighting instructions on page 6 for your particular model.
3. Check all gas connections for leaks using soapy water.
4. Flame should travel completely around the inside of the emitter grid.
5. Emitter grid should become RED within 5 minutes (this may be difficult to see in bright sunlight.

NOTE: Some white smoke may appear during or just after the initial start-up of the heater. White smoke will dissipate with proceeding use.

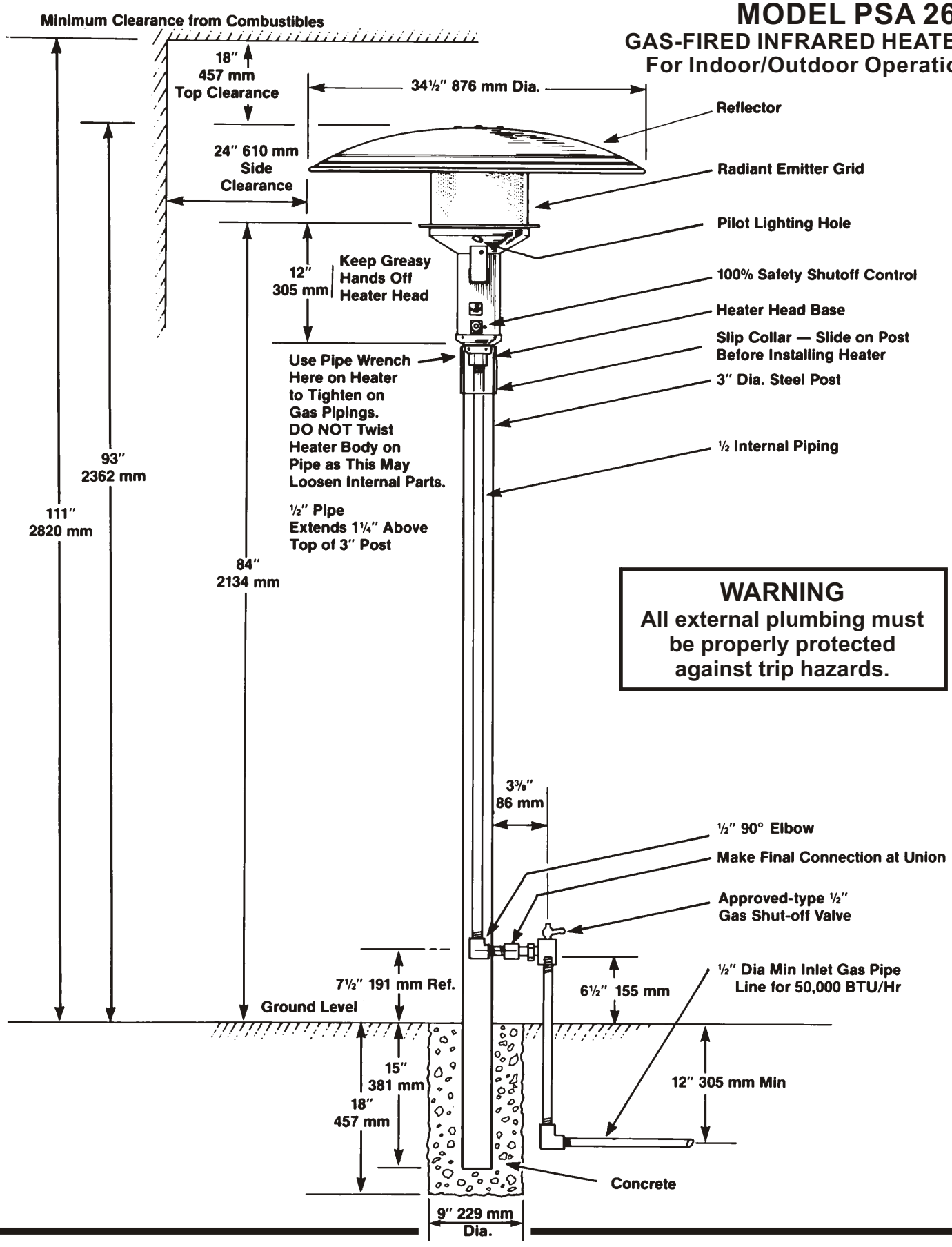
Servicing Instructions

Service checks on these heaters should be performed at least annually or more frequently depending on their use to verify the proper operation of these heaters. If the pilot fails to light, or the heater does not heat properly, the heater must be repaired before being put back into service.

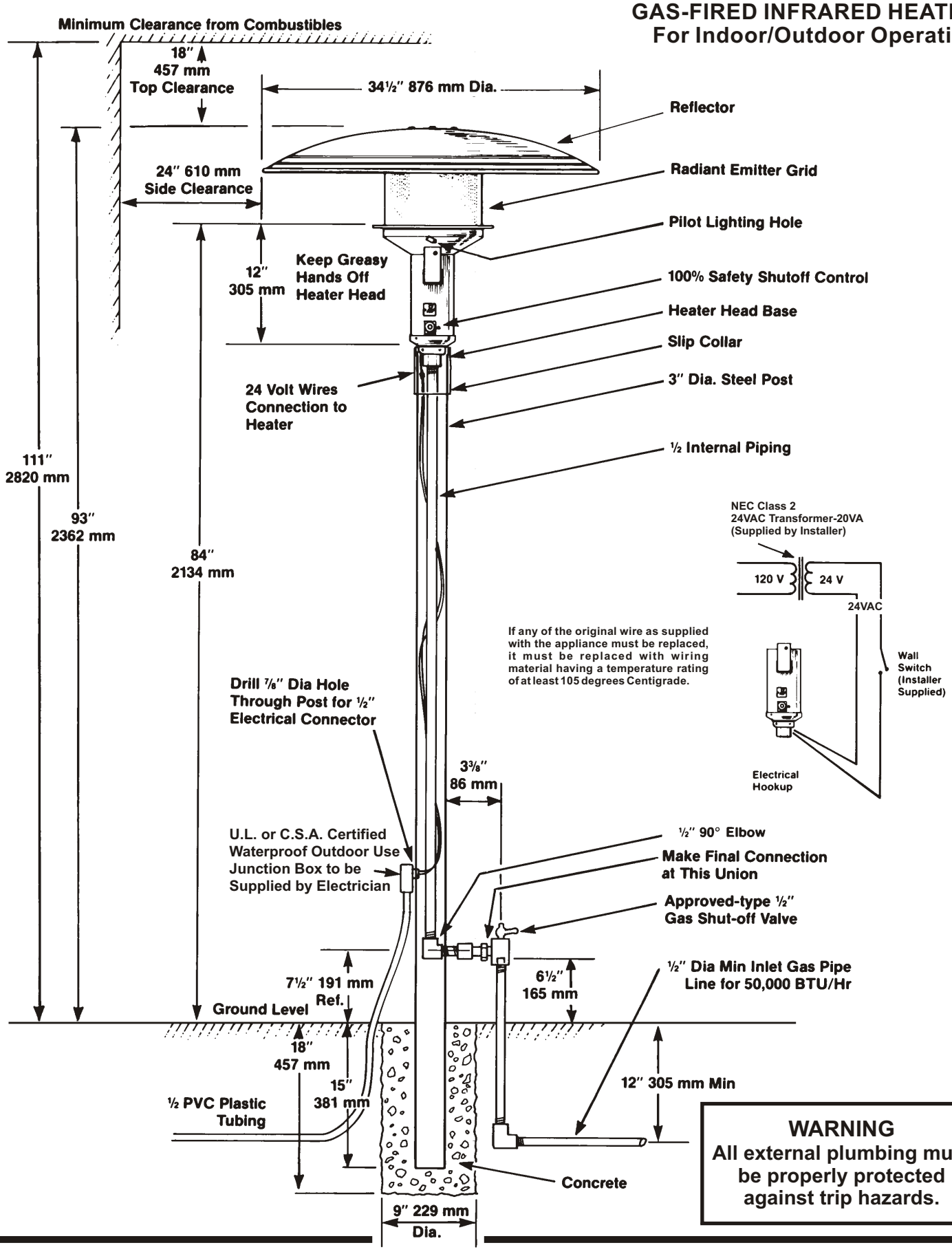
1. Turn off gas and electrical before attempting any service to this appliance.
2. Remove reflector and emitter assembly from heater as shown on page 21.
3. Using low pressure air (maximum of 30 psig) clear burner and pilot of any dirt or debris. NOTE: Appropriate eye protection must be worn.
4. Using a metal brush remove any accumulated dirt from the inside of the emitter grid.
5. Reassemble heater and observe whether heater has been restored to proper operation.
6. If heater does not operate properly it maybe necessary to remove burner and orifice for cleaning.
7. Any corroded or deteriorated parts must be replaced.

HEATER MODELS

MODEL PSA 265
GAS-FIRED INFRARED HEATER
For Indoor/Outdoor Operation

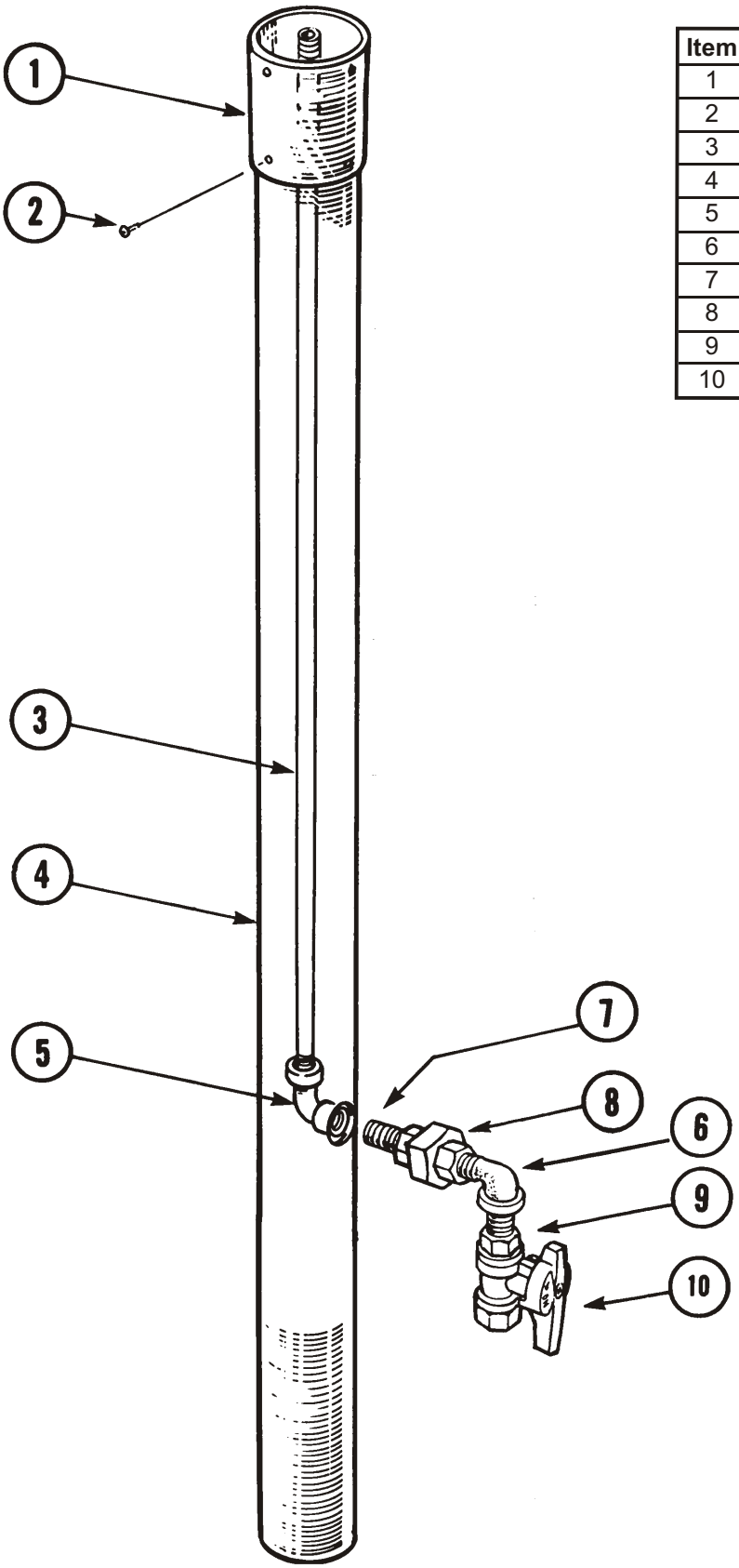


MODEL PSA 265V
GAS-FIRED INFRARED HEATER
For Indoor/Outdoor Operation



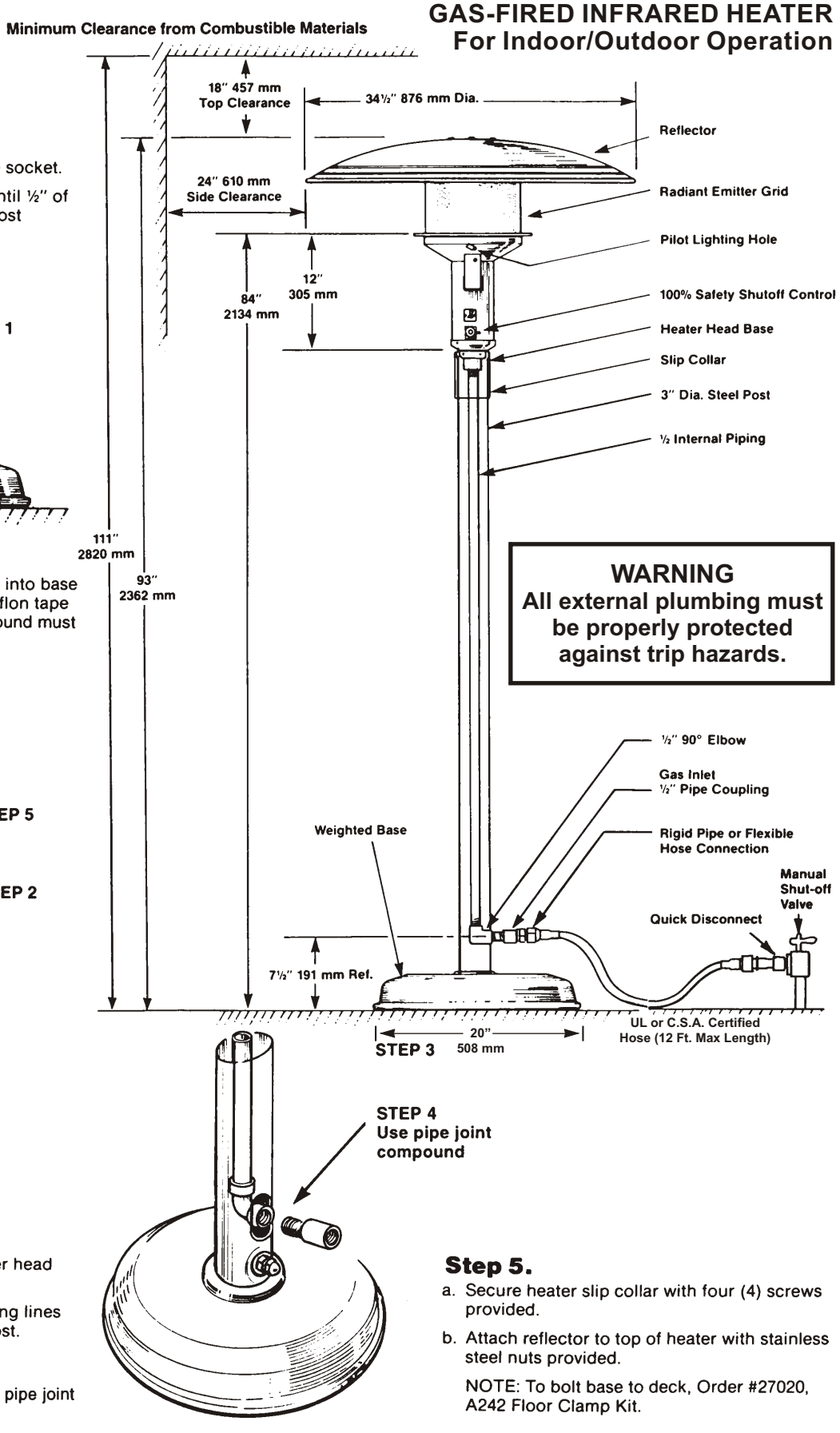
WARNING
All external plumbing must be properly protected against trip hazards.

MODEL PSA 265V
Replacement Parts List



Item	Part No.	Description
1	30257-1	Collar, PH Black Slip
2	70026	Screw, #8 x 3/8” SWHSMS
3	80008	Pipe, 1/2” x 62 1/4” Blk
4	30266	Post, A265 Blk-84” L
5	80023	Elbow, 1/2” Blk
6	80078	Elbow, 1/2” Street Blk
7	80054	Nipple, 1/2” X 1 1/2” Blk
8	80024-2	Union, 1/2” Blk
9	80003	Nipple, 1/2” x Close
10	90063	Valve, Jomar T205 1/2”

MODEL A242
GAS-FIRED INFRARED HEATER
For Indoor/Outdoor Operation

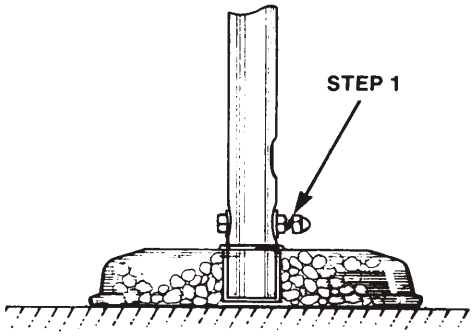


WARNING
All external plumbing must be properly protected against trip hazards.

Step 1.

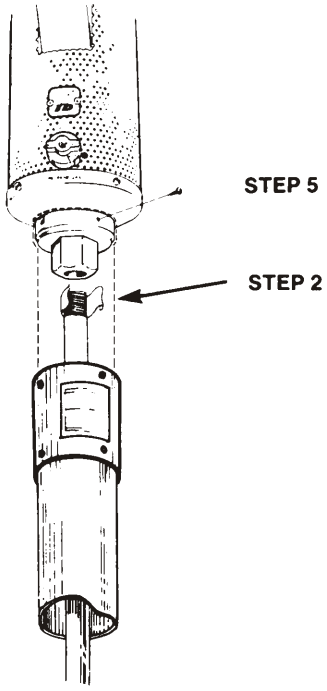
a. Insert 3" dia. post squarely into base socket.

b. Tighten nut on bolt to secure post until ½" of thread is exposed. Slight indent of post should occur. Install cap nut.



Step 2.

a. Thread 62" long internal pipe nipple into base of heater head as shown below. If teflon tape is not provided, gas pipe joint compound must be used at this joint.



Step 3.

a. Slide assembled gas pipe and heater head into post.

b. Turn heater head so pipe elbow fitting lines up with hole at the bottom of the post.

Step 4.

a. Screw ½ nipple into elbow using gas pipe joint compound as shown below.

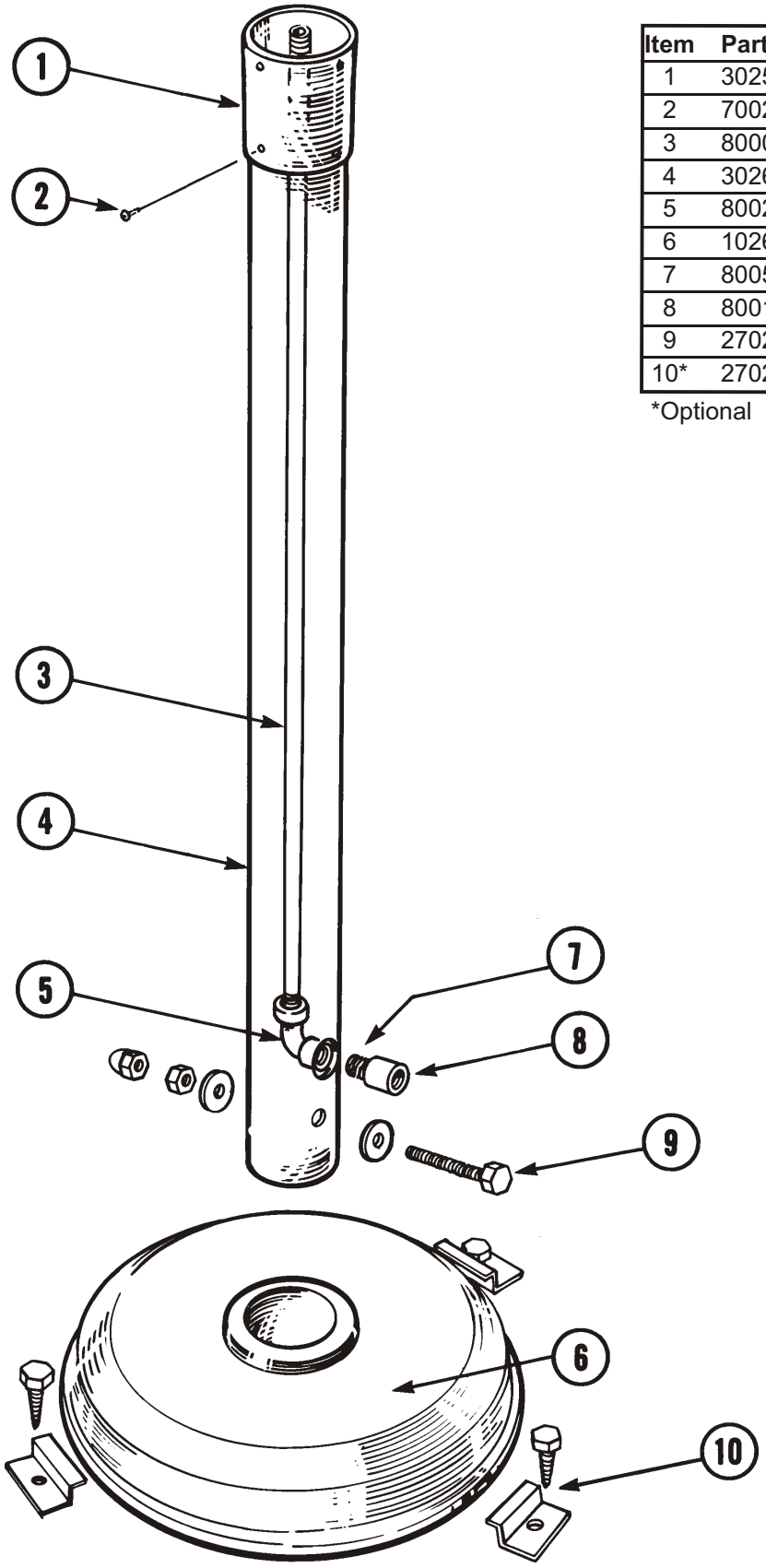
Step 5.

a. Secure heater slip collar with four (4) screws provided.

b. Attach reflector to top of heater with stainless steel nuts provided.

NOTE: To bolt base to deck, Order #27020, A242 Floor Clamp Kit.

MODEL A242
Replacement Parts List

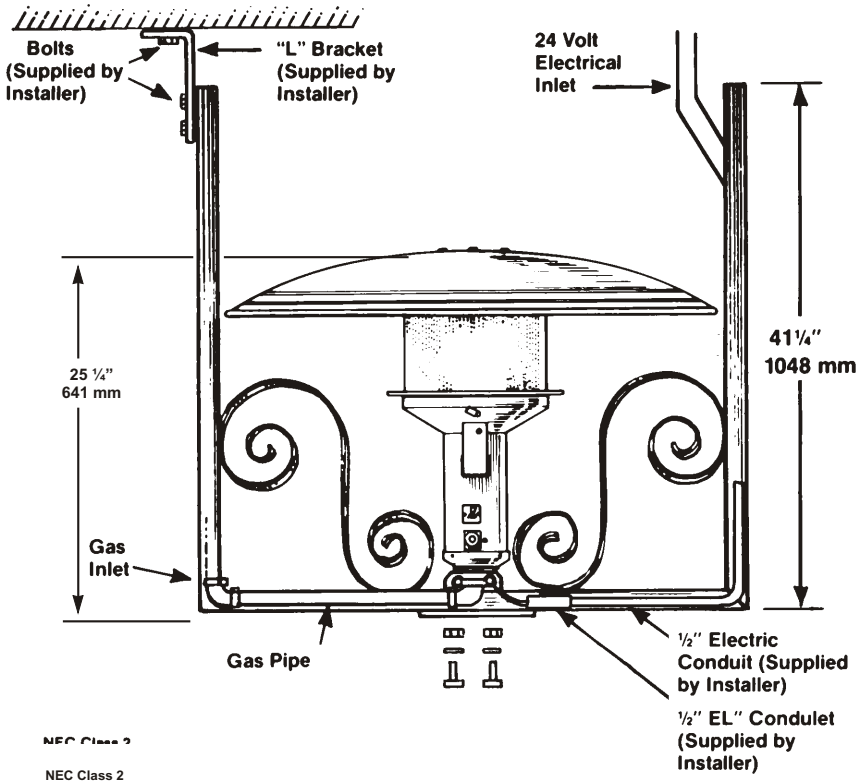


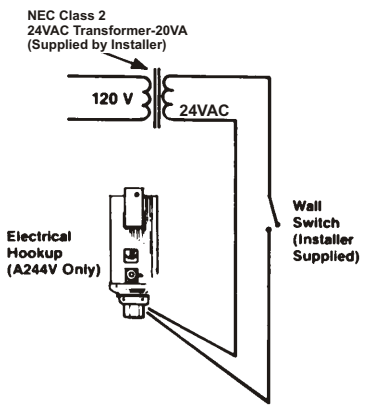
Item	Part No.	Description
1	30257-1	Collar, PH Black Slip
2	70026	Screw, #8 x 3/8” SWHSMS, ZN
3	80008	Pipe, 1/2” x 62 1/4” Blk
4	30264	Post, A242 Blk-68 1/2” L
5	80023	Elbow, 1/2”
6	10264-3	Assy, A242 Base
7	80054	Nipple, 1/2” X 1 1/2” Blk
8	80019	Coupling, 1/2” Blk
9	27027	PKG, A242 Post Bolt
10*	27020	PKG, A242 Floor Clamp

*Optional

MODEL A244 & A244V

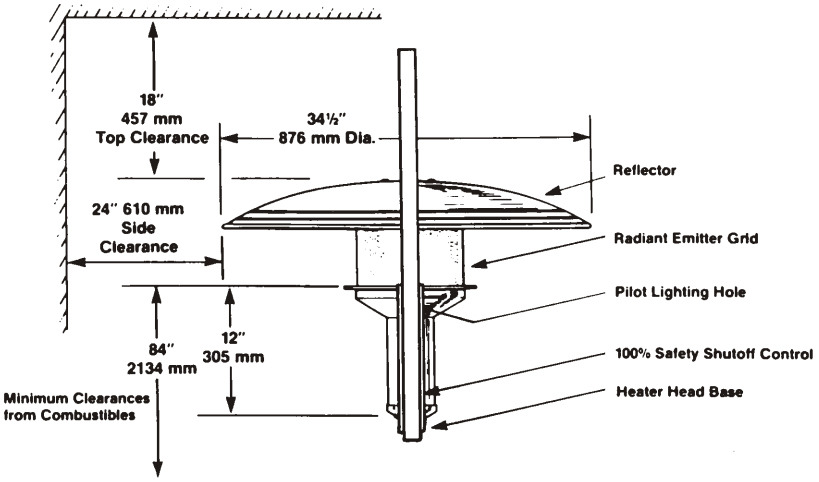
Installation Instructions





If any of the original wire as supplied with the appliance must be replaced, it must be replaced with wiring material having a temperature rating of at least 105 degrees Centigrade.

Maintain clearances shown for adequate clearance around air openings into the combustion chamber and for accessibility as well as for combustion and ventilating air supply.



1. **Hanging Frame Mounting:** Before attaching the heater to the U" shaped hanging frame, mount the frame in position to the overhead building structure. Use 1/2 inch diameter or larger bolts on each side leg. Position the frame to facilitate the connection of gas supply piping, and on models equipped with an electrical valve, the electrical supply wiring.
2. **Gas Supply Piping:** The piping provided with the heater is assembled to nestle in the channel of the hanging frame. Connect an additional length of 1/2 inch pipe long enough to clear the top of the frame.

   Screw the heater onto the 1/2" NPT x 1 inch long nipple at the outlet end of the piping. The heater should be turned to allow the control handle to face in the desired direction.

   Note: A 1/8 inch NPT plugged tapping, accessible for test gauge connection, must be installed immediately upstream of the gas supply connection to the heater. Use a suitable pipe thread sealant on all gas connections.
3. **Heater Mounting:** Set the heater (less ref lector) with the piping assembly attached into the suspended hanging frame. The piping will nestle in the hanging bracket channel. Install and tighten the two (2) 3/8 inch bolts supplied with the frame and firmly secure the base of the heater in place.

   Electrical Supply: On the A244V 24 volt model, the electrical inlet is provided on the right side of the heater opposite the gas inlet piping. The electrician should supply a connection box as shown adjacent to the heater electrical inlet and run ½" rigid waterproof conduit up to the right just inside the frame channel.

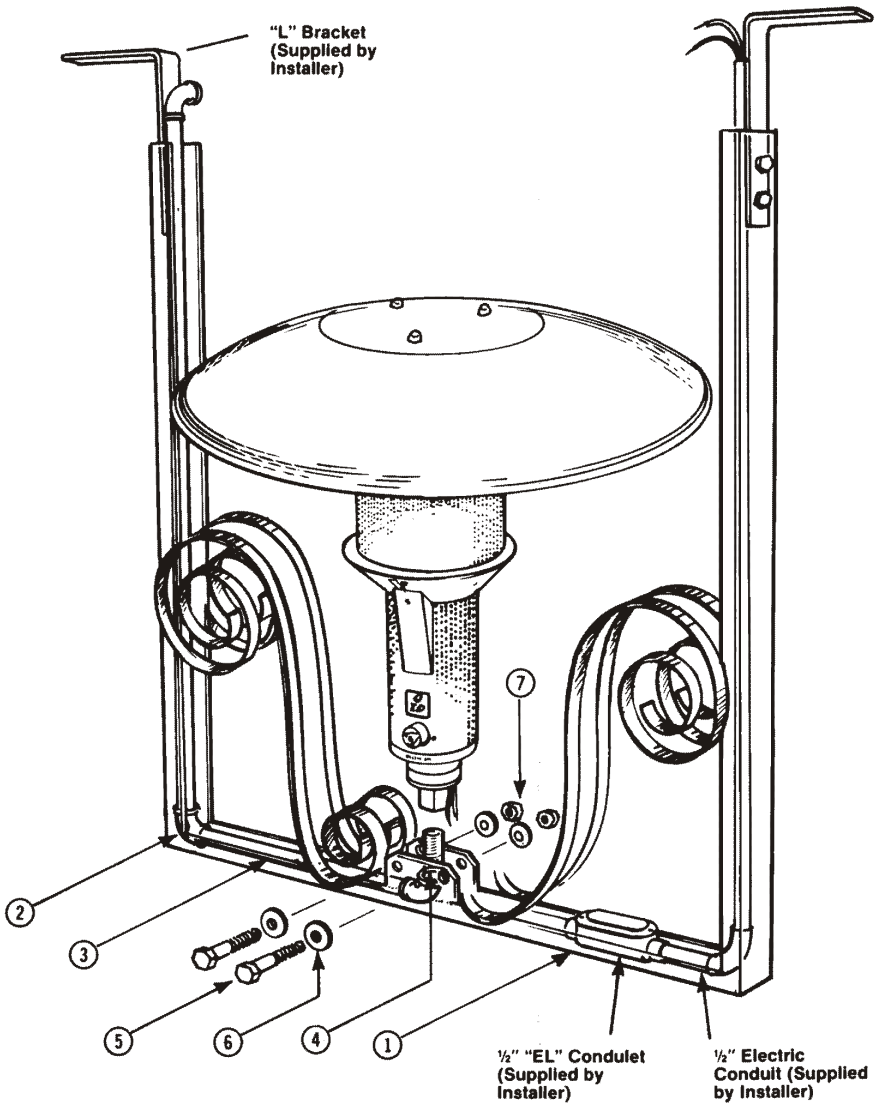
   WARNING: The minimum fire hazard clearance marked on the heater must be maintained from vehicles parked below the heater.

   The electrical input required to the heater is 0.550 Amps at 24V (rated at 8 Watts). A 4OVA transformer will service up to three (3) heaters.

   A NEC Class 2, 24 volt transformer (20 VA rating) circuit must be supplied to the heater. The transformer is to be installed in the junction box or in accordance with local codes, but in no case closer than three (3) feet to the reflector.
4. **Piping Hook-up:** Connect the additional gas supply piping. Leak test all piping joints with a soap-water solution. Do **NOT** use a match to test for gas leaks.
5. **Reflector Mounting:** Attach the reflector by means of the three (3) stainless steel wingnuts at the top of the heater.
6. **Heater Start-up:** Follow the lighting and operating instructions on the rating plate attached to the hanging frame.

MODEL A242
Replacement Parts List

Item	Part No.	Description
1	35031	Frame, PH Hanging
2	80023	Elbow, 1/2”
3	80036	Nipple, 1/2” X 16 1/2”
4	8003	Nipple, 1/2” X Close
5	70036	Bolt, 3/8” X 2 1/2”-Hex
6	70055	Washer, 3/8” SAE Zn
7	70059	Nut, 3/8”-16 Hex-Zn



MODEL E Series

GAS-FIRED INFRARED HEATER

For Indoor/Outdoor Operation

The Sunglo™ E Series heaters have a new fully automatic 24 volt ignition and flame monitoring system. The E Series head is a direct replacement for Models A244V and PSA265V. Use the installation instructions provided for those heaters for the E Series.

Once the Sunglo™ E Series heater is properly installed and wired to an appropriate 24 volt power source, follow the lighting instructions below.

To Turn "ON" Heater:

1. Turn the gas valve "ON".
2. Turn the electrical power "ON".

To Turn "OFF" Heater:

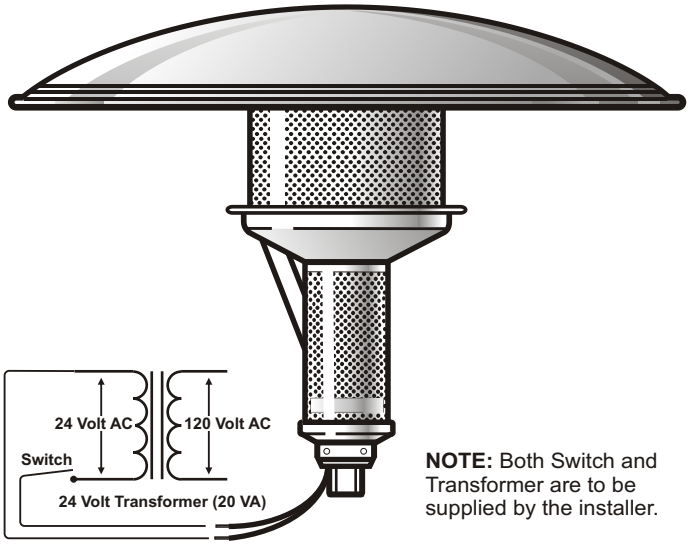
1. Turn the electrical power "OFF".
2. Turn the gas valve "OFF".

⚠ CAUTION

If burner fails to ignite, shut OFF electrical power and wait (5) five minutes to repeat the lighting process.

⚠ WARNING

DO NOT attempt to light this heater manually.

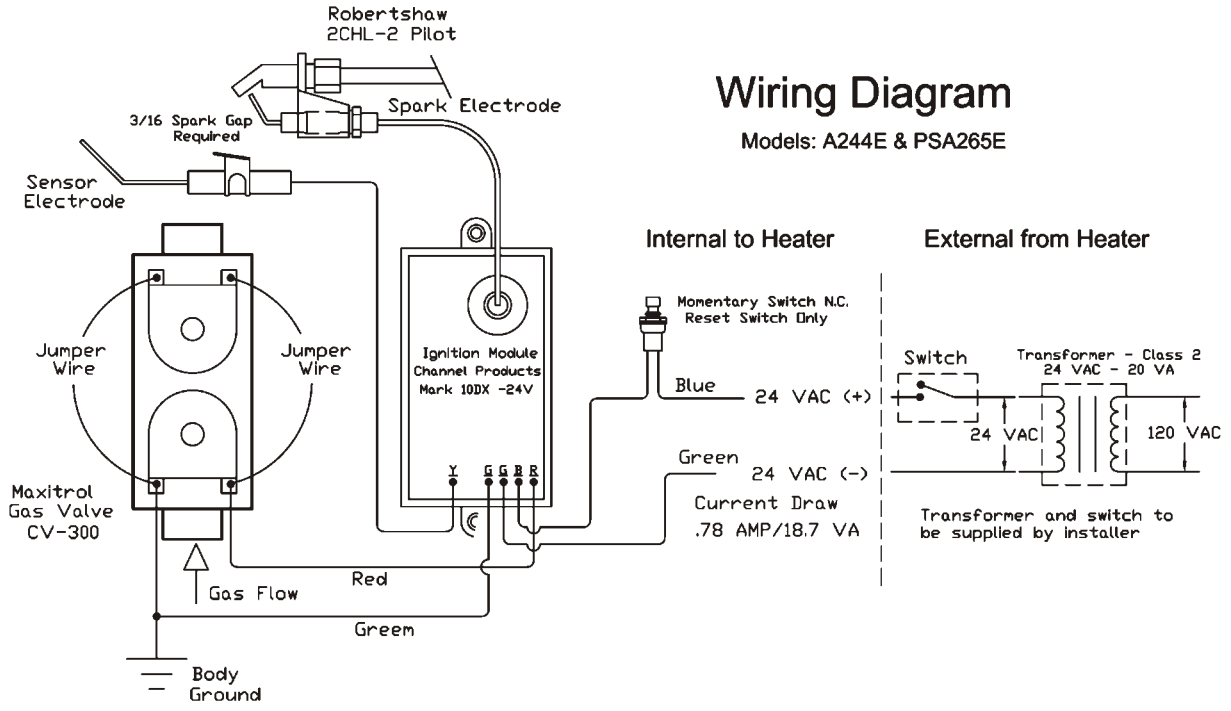


NOTE: Both Switch and Transformer are to be supplied by the installer.

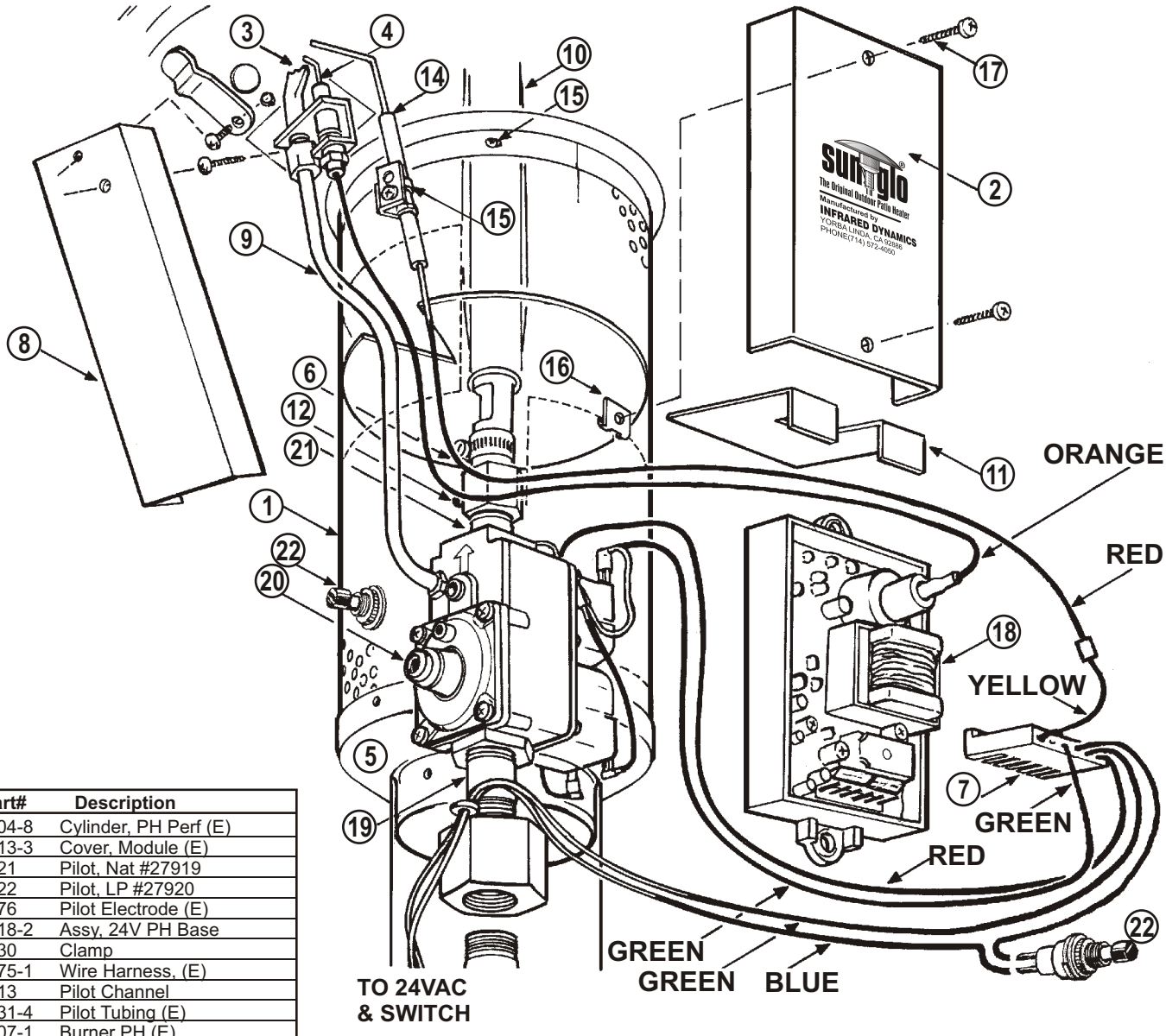
It is recommended that multiple units be placed on individual switches to provide more flexibilty in heating, and, to allow for easy reset of a single unit.

Wiring Diagram

Models: A244E & PSA265E



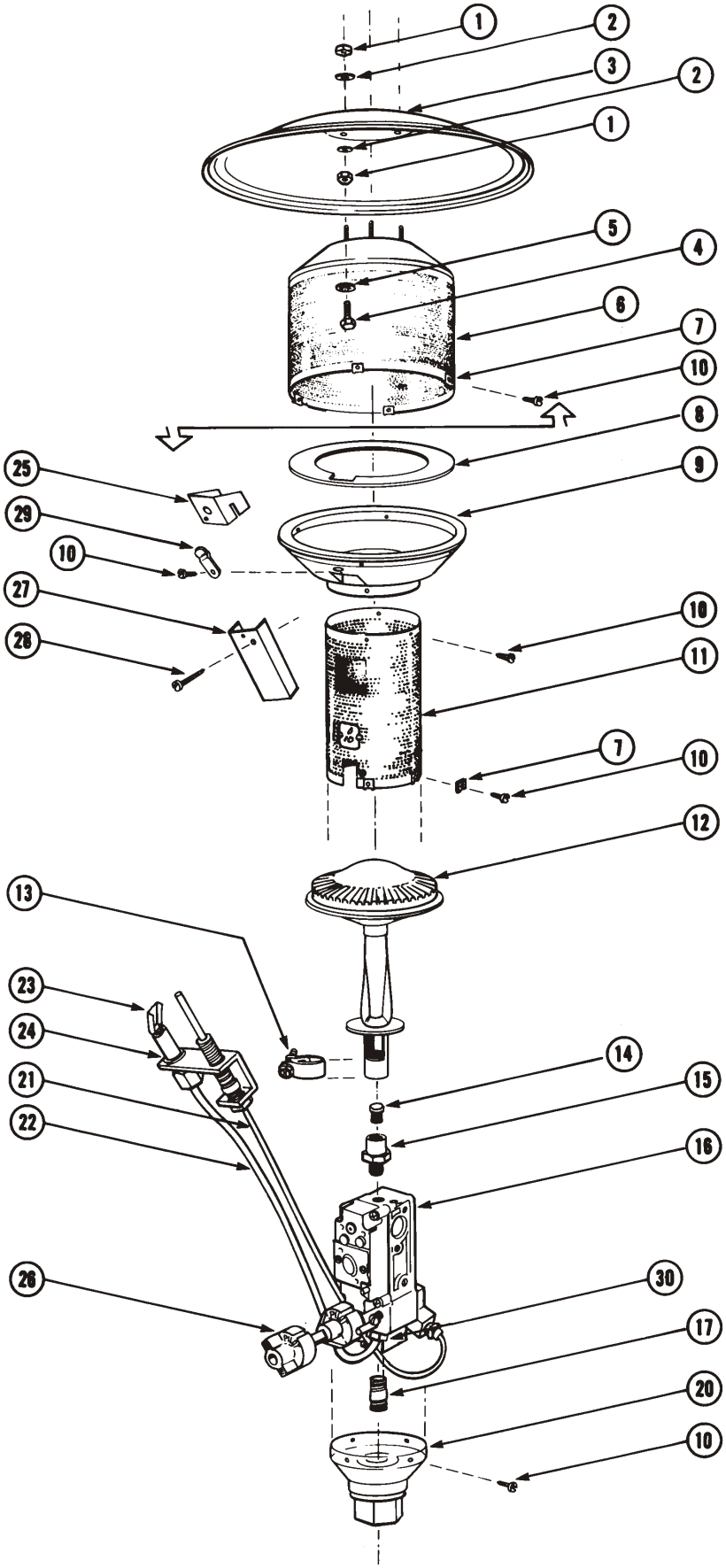
MODEL 265E & A244E
GAS-FIRED INFRARED HEATER
For Indoor/Outdoor Operation



Item	Part#	Description
1.	30204-8	Cylinder, PH Perf (E)
2.	30213-3	Cover, Module (E)
3.	90021	Pilot, Nat #27919
	90022	Pilot, LP #27920
4.	90076	Pilot Electrode (E)
5.	27018-2	Assy, 24V PH Base
6.	70030	Clamp
7.	90075-1	Wire Harness, (E)
8.	30213	Pilot Channel
9.	80031-4	Pilot Tubing (E)
10.	27007-1	Burner PH (E)
11.	30214	Shield, Module (E)
12.	35015	Adapter, Orifice (E)
13.	35001-31	Orifice, Natural Gas
	35001-48	Orifice, Propane Gas
14.	90065-3	Electrode Assembly
15.	70072	Screw, 8-32 x ½ "F"
16.	70025-2	Clip, Stainless Steel
17.	70052	Screw #8 x¾ RHSM
18.	90075	Module, Mark DX 10-24 V
19.	80053-2	Nipple, 1/2" x 2" L
20.	90072-1	Ctrl, CV300-Natural
21.	80025	Face Bushing, ½ "x3/8" STL
22.	85861	Switch, Momentary N.C.

Parts not listed are common to all Sunglo heaters.

MAINTENANCE AND TROUBLESHOOTING

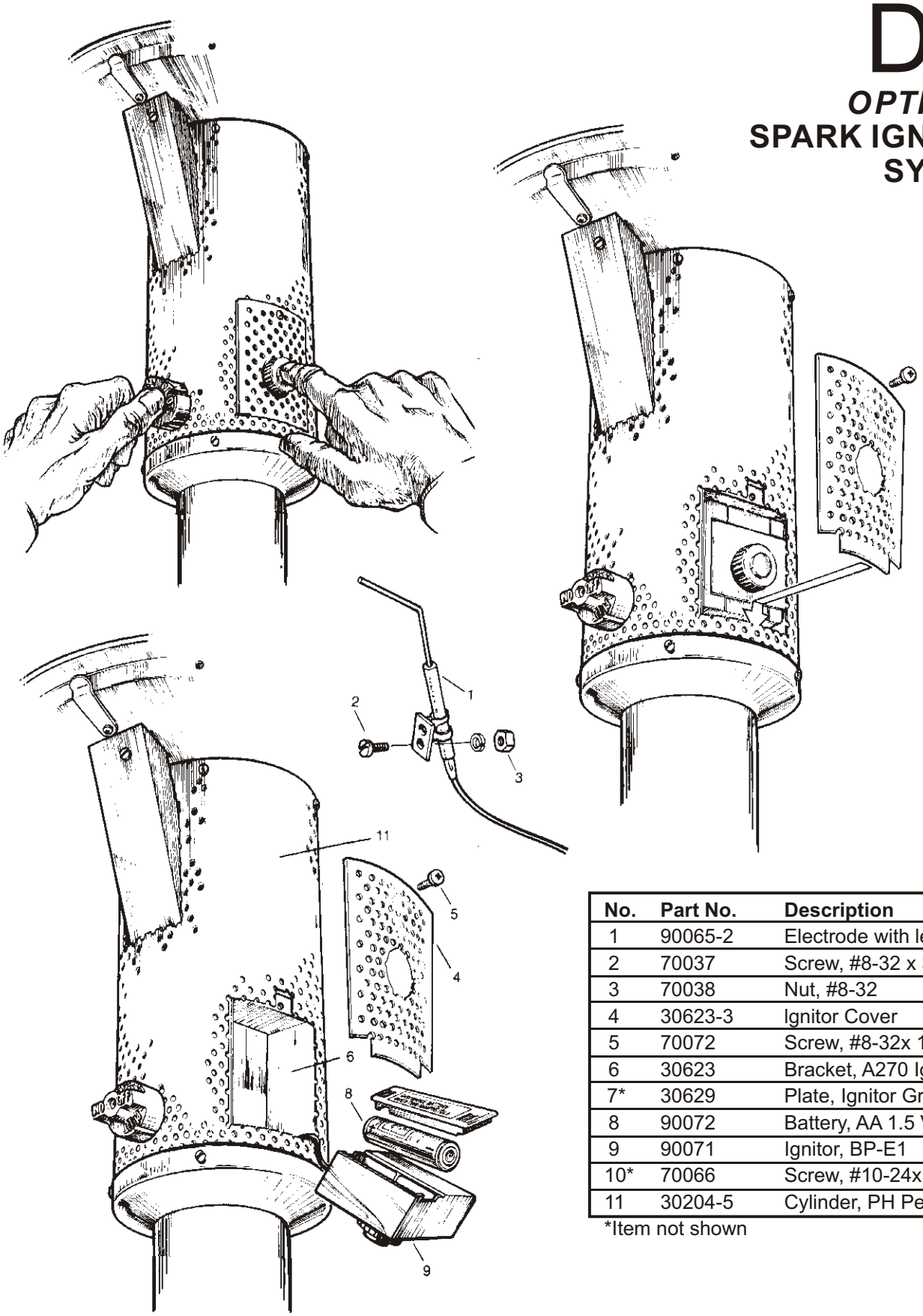


HEATER HEAD ASSEMBLY
Replacement Parts List

Item	Part No.	Description
1	70017	Nut, ¼ -20 Hex SS
2	70024	Washer, ¼ SAE SS
3	10261	Reflector, PH
4	70006	bolt, ¼ x ¾ Hex SS
5	70033	Washer, ¼ Inter SS
6	27006	Assy, PH Emitter Grid
7	70025-2	Clip, Stainless Steel
8	30225	Shield, PH Head
9	30202	Pan, PH Head
10	70005	Screw, #8 x ½ SP SS
11	30204-1	Cylinder, PH Perf (7000)
12	27007	Assy, PH Burner Pltd
13	70030	Clamp, 1"
14	35001-31	Orifice, #31 DS (Nat)
	35001-49	Orifice, #49 DS (Propane)
15	35012	Adapter, Orifice ⅜
16	90002-3	Control, 7000 MRLC Nat
	90003-3	Control, 7000 ERLC Nat-24V
	90004-3	Control, 7000 MLC-Propane
17	80005	Nipple, ½ x 2⅛ Blk
20	27018-1	Assy, PH H Base
	27018-2	Assy, 24V PH Head Base
21	90031	Thermocouple T46518
22	80031	Tubing, AL-¼ x 14L
23	90021	Pilot, Natural #27919
	90022	Pilot, Propane 327920
24	90015	Natural Pilot Orifice
	90016	Propane Pilot Orifice
25	30258	PH Pilot Shield
26	27025	Assy, 7000 Handle
27	30213	Channel, PH Pilot
28	70020	Screw, #10 x 1¼ SS
29	30299	Cover, PH Pilot Hole
30	80026	Tubing Fastener-¼"

DSI

OPTIONAL SPARK IGNITION SYSTEM

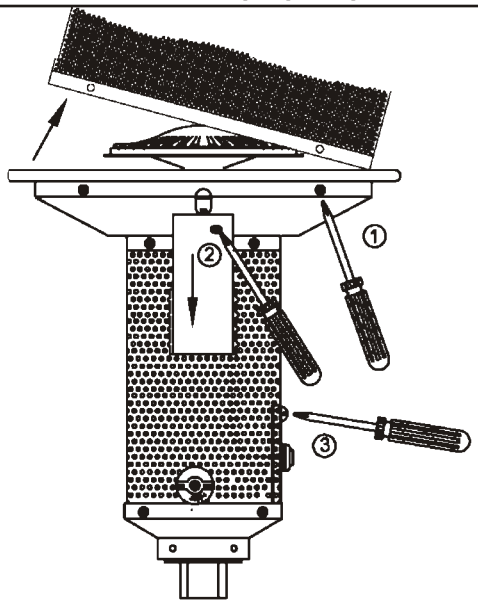


No.	Part No.	Description
1	90065-2	Electrode with lead
2	70037	Screw, #8-32 x 3/8
3	70038	Nut, #8-32
4	30623-3	Ignitor Cover
5	70072	Screw, #8-32x 1/288
6	30623	Bracket, A270 Ignitor
7*	30629	Plate, Ignitor Ground
8	90072	Battery, AA 1.5 Volt
9	90071	Ignitor, BP-E1
10*	70066	Screw, #10-24x .250L
11	30204-5	Cylinder, PH Perf SS

*Item not shown

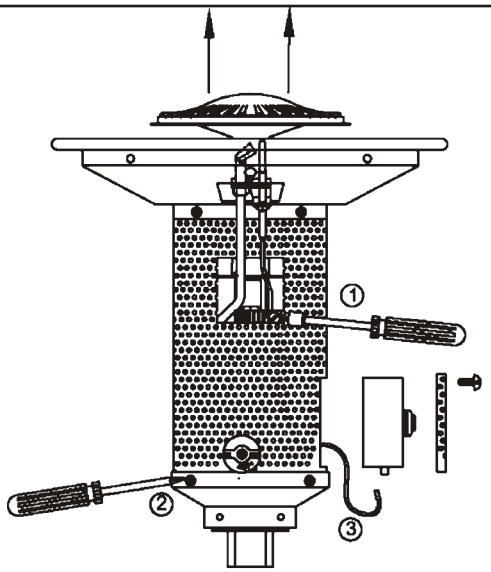
BASIC HEATER DISASSEMBLY

⚠WARNING **Repair and maintenance of Sunglo™ Heaters must be performed by a qualified service technician. Reassembled heater must be thoroughly checked for leaks and checked for proper operation before use.**



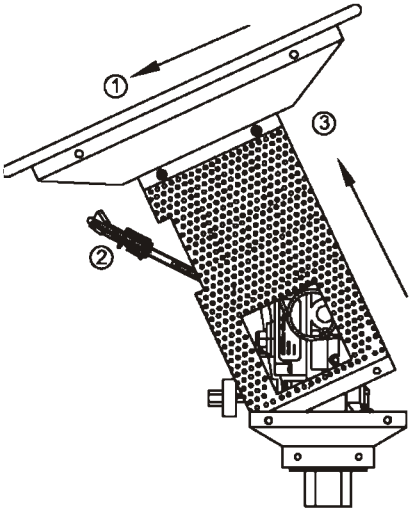
Step 1

1. Remove four (4) screws and remove the emitter grid.
2. Remove two (2) screws and remove the pilot channel and pilot hole cover
3. Remove one (1) screw and slide out ignition module.



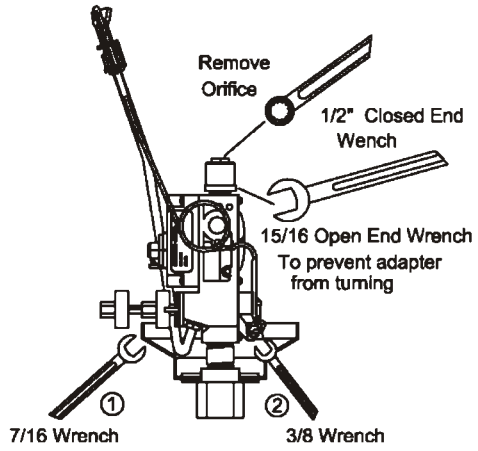
Step 2

1. Loosen hose clamp holding burner in place and remove burner.
2. Loosen four (4) screws on the control base
3. Disconnect Wire from igntion module



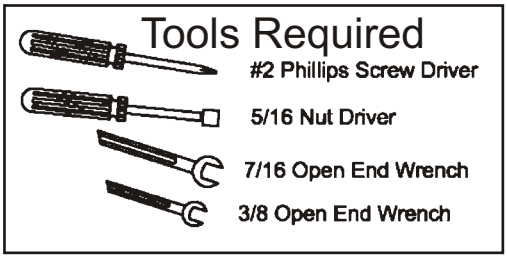
Step 3

1. Tilt housing toward pilot as shown
2. Free pilot body from housing.
3. Slide housing up over control assembly



Step 4

1. Loosen Pilot Tubing with 7/16 Wrench
2. Loosen Thermocouple with 3/8 Wrench



The Original Outdoor Patio Heater

Heater Maintenance

Heater maintenance or repair should only be performed by qualified service personnel such as a licensed heating, ventilation, and air conditioning contractor familiar with this type of heater.

Safety Inspection Checklist

For optimum performance and safety, it is recommended that all installation, service and annual inspection be done by a qualified agency. Below is a basic guideline for inspection. A more comprehensive inspection may be required depending on the initial inspection of the heaters.

- ✓ **Make sure the heater *Installation, Operation and Maintenance Manual* is legible. Keep manual in a clean dry place. Contact the manufacturer for replacement of labels or manuals.**
- ✓ **Make sure the area around the heater is free of combustibles.**
- ✓ **Reflector should be in good condition and free of dust and debris.**
- ✓ **Make sure the heater is mounted securely and there is no corrosion or damage to the post or mounting brackets.**
- ✓ **Inspect emitter grid for cracks or bubbles. Using a wire brush remove any soot, scale or debris from the inside of the emitter grid.**
- ✓ **Check the gas line for leaks using soapy water at all joints and connections.**
- ✓ **Light heater to verify proper ignition. If heater fails to light, clean pilot and replace thermocouple if required.**
- ✓ **Inspect electrodes for cracks. With the heater off verify the ignition electrode arcs to the top of the pilot hood.**
- ✓ **If heater fails to heat properly, burner and orifice will need to be cleaned.**
- ✓ **Observe flames. If flame has a bright yellow appearance or black soot accumulates on the emitter grid both the burner and emitter grid need to be cleaned thoroughly.**
- ✓ **Make sure the heater control operates easily.**

TROUBLESHOOTING

MANUAL CONTROL

Problem	Possible Causes
Pilot will not light	• Air in gas line • Low gas pressure • Gas line turned “Off” • Blockage in gas line
Pilot does not stay lit	• Damaged thermocouple • Corrosion of thermocouple connection to valve • Damaged Gas Valve • Wind exceeding 10 mph
Main burner does not light	• Low gas pressure • Blockage in the main orifice • Obstruction inside the burner

MANUAL CONTROL WITH DSI

Problem	Possible Causes
No Spark	• Weak battery • Damaged Electrode or wiring • Ground Plate not in place • Loose wire
Spark will not light pilot	• No gas to pilot • Electrode not sparking to pilot hood • Improper electrode gap (3/16”)

AUTOMATIC GAS VALVE (V SERIES)

Problem	Possible Causes
Main burner does not light	• No power to the heater (24 VAC) • Control knob not in “On' position

ELECTRONIC CONTROL SYSTEM (E SERIES)

Problem	Possible Causes
No Spark to Electrode	• Improper electrode gap (3/16”) • Damaged electrode or wiring • Damaged ground wire • No gas to pilot
Gas Valve does not open	• No power to the heater (24 VAC) • Loose or damaged wiring to gas valve • Damaged gas valve
Heater Shuts Down	• Wind exceeding 10 mph • Sensing Electrode damaged or out of position

LIMITED WARRANTY

THIS WARRANTY IS APPLICABLE TO THE ORIGINAL OWNER ONLY. In accordance with the warranty terms and conditions specified below.

Infrared Dynamics (the warrantor) will furnish the ORIGINAL OWNER (1) a replacement Infrared Dynamics' heater or, (2) a replacement part for any component part which fails before one year when used for residential use. When the heater has been used for other than single family residential application the warranty shall be 90 days.

Service and Labor Responsibility

UNDER THIS LIMITED WARRANTY, THE WARRANTOR WILL PROVIDE ONLY A REPLACEMENT HEATER OR PART THEREOF. THE OWNER IS RESPONSIBLE FOR ALL OTHER COSTS. Such costs may include, but are not limited to:

A. Labor charges for service, removal, or reinstallation of the heater or part thereof.
B. Shipping and delivery charges for forwarding the new heater or replacement part from the nearest distributor and returning the claimed defective heater or part to such distributor.
C. All cost necessary or incidental for handling and administrative charges and for any material and/or permits required for installation of the replacement heater or part.

LIMITATION ON IMPLIED WARRANTIES

Implied warranties, including any warranty of merchantability imposed on the sale of this heater under state law are limited to one year duration for the heater or any of its parts. Some states do not allow limitations on how long an implied warranty lasts, so the limitation may not apply to you.

CLAIMS PROCEDURE

Any claim under this warranty should be initiated with the dealer who sold the heater, or with any other dealer handling the warrantor's products. If this is not practical, the owner should contact: Infrared Dynamics, 3830 Prospect Avenue, Yorba Linda, California 92886. By phone Toll Free at:1-888-317-5255 (7-3 MF) or visit our website: www.infradyne.com.

Manufactured by
INFRARED DYNAMICS, INC.
Yorba Linda, CA 92886 U.S.A.
Tel: (714) 572-4050 Fax: (714) 572-6093
Toll-Free: (888) 317-5255
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